

**DWITE Online Computer Programming Contest
December 2004**

Problem 2

Squareland II

Squareland is an imaginary new country that is in the shape of a square. The country is divided into lots of one square unit each. These lots are for growing potatoes and each lot can yield a specific number of bushels of potatoes.

If Squareland had 16 lots it would be shaped like this:

1	3	17	31
11	5	1	1
22	1	6	1
1	12	1	41

The values in each lot represent the potato yield.

Matt and Hilda, a newlywed couple from Ireland, are the first people to immigrate to Squareland, and they wish to purchase some lots and grow potatoes on them. Now, since this is Squareland, they can only purchase lots that form a square. They decided to buy 9 lots, but now realized they had 4 choices of 9 lots to choose from. They wish to choose the 9 lots that will maximize the potato yield.

1	3	17	31
11	5	1	1
21	1	6	1
1	12	1	41

1	3	17	31
11	5	1	1
21	1	6	1
1	12	1	41

1	3	17	31
11	5	1	1
21	1	6	1
1	12	1	41

1	3	17	31
11	5	1	1
21	1	6	1
1	12	1	41

Your job is to calculate the maximum yield, M , from the choices that Matt and Hilda have, from their number of lots S , from Squareland whose size is N lots.

The input file (**DATA21.txt** for the first submission and **DATA22.txt** for the second submission) will contain five sets of data. Each set will contain several lines of data, the first line will be N , a perfect square, $0 < N \leq 10,000$ and the second line will be S , a perfect square, $0 < S \leq N$. The next $N^{1/2}$ lines will contain $N^{1/2}$ integers representing the yields for each of the N lots in Squareland, $0 \leq \text{yield} < 100$.

The output file (**OUT21.txt** for the first submission and **OUT22.txt** for the second submission) will contain M , the maximum yield that Matt and Hilda could possibly get.

Sample Input (Only three sets given)

```
16
9
1 3 17 31
11 5 1 1
21 1 6 1
1 12 1 41
16
1
1 3 17 31
11 5 1 1
21 1 6 1
1 12 1 41
4
4
5 0
12 8
```

Sample Output

```
69
41
25
```